ASTRO

Super Scan Converter

SC-2055/SC-2055A

Instruction Manual

Ver.1.09

Super Scan Converter

SC-2055/
SC-2055A

Instruction Manual

2006.2

Ver.1.09

ASTRODESIGN,Inc

CONTENTS

INTRODUCTION

Thank you very much for purchasing this model SC-2055 or SC-2055A super scan converter.

This manual contains details on the functions featured by the SC-2055 or SC-2055A and the operation procedures for operating these models as well as the checkpoints and precautions to be observed.

Since improper handling may result in malfunctioning, before using the SC-2055 or SC-2055A, please read through these instructions to ensure that you will operate the super scan converter correctly.

After reading through the manual, keep it in a safe place for future reference.

SAFETY PRECAUTIONS

⚠ WARNING

Concerning the power cord

- ❒ Always take hold of the molded part of the plug when disconnecting the power cord.
- ❒ Do not use force to bend the power cord or bundle it with other cords for use. This may cause a fire.
- ❒ Do not place heavy objects on top of the power cord. This may damage the cord, causing a fire or electrical shock.

Concerning foreign matter

- ❒ Do not spill liquids inside the scan converter or drop inflammable objects or metal parts into it. Operating the scan converter under these conditions may cause a fire, electric shocks and/or malfunctioning.

Concerning disassembly of the product

- ❒ Do not attempt to disassemble the super scan converter. Users run the risk of electric shocks or injury and of causing malfunctioning if they open the panels and plug or unplug the internal circuit boards themselves.

⚠CAUTION

Concerning the power supply and grounding

❒ Use a supply voltage within the range of AC 100V-120V or AC 200V-240V for this super scan converter. The super scan converter is grounded through a 3-wire type of power cable with a grounding line. To ensure safe operation, be absolutely sure to connect the power cable to a power outlet that is equipped with a grounding terminal for protection.

Concerning installation and operation

❒ No special precautions need be taken if this super scan converter is to be operated in a normal indoor environment. However, installation and operation in the following locations should be avoided. Failure to do so may cause malfunctioning and accidents.

- Locations where the ambient temperature is outside the range of 5 to 40 degrees Celsius.
- Locations where the ambient humidity is outside the range of 30 to 80% RH.
- Locations which are near air conditioners or otherwise susceptible to sudden changes in temperature or the formation of condensation
- Locations with high concentrations of corrosive gases or dust
- Locations which are exposed to direct sunlight
- Locations where the super scan converter may be splashed with water, oil, chemicals, etc.
- Locations where vibrations from the floor may be transmitted
- Unstable locations
- The ventilation holes in the side panels prevent internal temperature rises. On no account should they be blocked since doing so can cause malfunctioning.

Concerning impact

❒ This is a precision instrument and, as such, subjecting it to impact may cause malfunctioning. Take special care when moving the super scan converter.

❒ Do not drop the super scan converter.

Concerning the frame ground

❒ Before connecting the super scan converter to another unit, connect the frame ground (FG) terminals on both units together. If these FG terminals are not connected together, failures or malfunctioning may result. Furthermore, to disconnect the cables between the units, first disconnect the connecting cable, and then disconnect the FG cable.

If trouble or malfunctioning should occur

- ❒ In the unlikely event that trouble or malfunctioning should occur in the super scan converter, disconnect its power cord, and contact your dealer or an Astrodesign sales representative.

Handling the modules

- ❒ The modules are composed of precision components. Take special care when handling them.
- ❒ Do not plug or unplug a module while the power is supplied to the super scan converter. You run the risk of electric shocks or injury and of causing malfunctioning.
- ❒ Bear in mind that when removing a module, its connector may come into contact with your hands.

1 VERSION UPDATE HISTORY

Ver.	Date	Page	Section No.	Details of version update
1.00	2005/03/20			Initial version
1.01	2005/04/14	3	1.4	Items added to "Restrictions imposed by the specifications."
		14	5.1.1	In the "MENU mode": Configuration of menus changed.
1.02	2005/04/26	10	1.4	In "Restrictions imposed by the specifications": (2) Items added to "Concerning the output timing signal restriction values."
		10	1.5	Item added to "Selecting the output timing data."
		11	4	Items added to "Concerning the connection procedures." Section numbers in subsequent chapters shifted and revised.
		27	6.1.4	"HOT PLUG" menu added to CONFIGURATION mode.
		33	6.2.8	Items added to "Hot plug settings."
1.03	2005/05/12	28	6.1.5	INFORMATION MODE Version information menu added.
1.04	2005/06/06	9	1.4	In "Restrictions imposed by the specifications": (1) Concerning the input timing signal restriction values <4> Maximum total number of horizontal dots changed from 4096 to 4608. (2) Concerning the input timing signal restriction values <4> Maximum total number of horizontal dots changed from 4096 to 4608.
1.05	2005/06/20	1	1	"Version update history" added Subsequent chapter numbers and section numbers shifted and revised accompanying the addition of items.
		5	2.4	In "Restrictions imposed by the specifications": (1) Concerning the input timing signal restriction values Restrictions on progressive signals and interlace signals added to <6> horizontal active width and <7> vertical active width.
1.06	2005/08/12	5	2.4	In "Restrictions imposed by the specifications": Item entitled "Concerning the input slots" added. Item entitled "Concerning the output slots" added.
		11	4.1	In "Installing the input modules": Precautions when installing the IM-588 added.
		12	4.2	In "Installing the output modules": Precautions when installing the OM-598 added.
		19	7.1	In "Menu configuration" Graphical representation of VIDEO mode changed.
1.07	2005/10/27	16	6.2	In "What is shown on the display": Additional details describing the flashing of the letters "SLAVE" added.
		35	9.1	In "General specifications": Items on the apparent power, power rate and amount of heat generated deleted. Name of specification for "effective power" changed to "power consumption."
1.08	2005/12/18	3	2.2	In "Features": "AES/EBU audio multiplexing" deleted. "Embedded audio multiplexing" added.
		7	2.5.1	In "Outputting identical timing signals from 2 output systems": OM-598 added to the table.
		15	6.1	In (2) Selecting the output channels in Operation: Reference of "Output timing data setting" added. New menus supported. SC-2055A supported.
1.09	2006/01/13			Changes made on last page.

2 CONCERNING THE SC-2055/SC-2055A

2.1 Introduction

The models SC-2055 and SC-2055A are format converters which support various video standards including serial digital standards for SDTV and HDTV, SDTV/HDTV/PC analog standards and DVI standards.

They come with two input and two output systems, and the input/output modules can easily be changed by slotting them in and slotting them out depending on the application concerned.

By using "astrosnap," a newly developed algorithm for I/P conversion processing where interlace signals are converted into progressive signals, it is possible to supply progressive images with a high image quality and without any deterioration in the image quality.

2.2 Features

- **Easy expandability by slotting in and slotting out different modules for two input systems and two output systems**

  For the types of modules available, refer to the separate "List of modules."

- **10-bit processing**

  All internal processing including I/P conversion and scaling conversion is performed by 10-bit processing to ensure that images with a high quality are reproduced.

- **"astrosnap" I/P conversion processing function with a high image quality**

  Use of "astrosnap," which is a newly developed algorithm, SDTV/HDTV timing interlace signals are converted into progressive signals with a high image quality.

- **"TERA" scaling processing with a high image quality**

  Use of the "TERA" algorithm for up/down conversion scaling processing enables conversion while maintaining a high image quality.

- **Embedded audio multiplexing**

  Audio data multiplexing and lip synch adjustments can be performed by installing an AES/EBU module.

- **Small size (1U) and a low price tag**

2.3 Main functions

- **Input timing data table editing function**

  This function enables the input timing data tables to be edited to suit the user's exact preference.

  (The timing data of specific standards cannot be edited.)

- **Output timing data table editing function**

  This function enables the output timing data tables to be edited to suit the user's exact preference.

  (The timing data of specific standards cannot be edited.)

- **Automatic input timing data search function**

  This function enables the timing data tables best suited to the input timing signals to be automatically selected from among the registered timing data. Manual settings are also possible.

- **Color matrix function**

  This function enables RGB/YPbPr to be set as the input color matrix. It also enables RGB/YPbPr to be set for each channel as the color matrix for two output systems.

- **Color mat function**

  This function enables any colors to be set in the blanking area which is formed when converting the aspect ratio from 16:9 to 4:3 or vice versa.

- **Test pattern output function**

  This function enables test patterns, such as bright, contrast, hue & color, color bar, burst, frame and crosshatch to be displayed.

- **Color control and image quality adjustment functions**

  Users can set color, hue, contrast and other color control functions and also set items relating to the image quality such as enhance, pull-down and sampling adjustments.

- **Setup remover function**

  This function makes it easy to perform settings which disregard the setup signal for those signals onto which the setup has been superimposed. Conversely, it enables the setup signal to be superimposed.

- **Gamma correction function**

  This function enables the output gamma to be corrected.

- **User text function**

  This function enables the characters of the user's choice to be displayed in the default menu display status. It makes it easy to identify the scan converter after it has been installed.

2.4 Restrictions imposed by the specifications

The SC-2055 and SC-2055A are subject to specific restrictions which, if exceeded, may disrupt the images on the output screen.

In a case like this, restrictions will be imposed upon the functions of the unit due to its characteristics so care should be taken during operation.

(1) Concerning the input timing signal restriction values

Video timing signals which meet all the conditions 1) to 13) below can be input.

1) Pixel clock frequency: 10.0 MHz to 165.0 MHz
2) Horizontal frequency: 15 to 150 kHz
3) Vertical frequency: 24 to 150 kHz

4) Horizontal total width: 512 ≤ horizontal total width ≤ 4608 dots
   * Horizontal total width ≥ horizontal sync + horizontal back porch + horizontal active width

5) Vertical total width: 256 ≤ vertical total width ≤ 2560 dots
   * Vertical total width ≥ vertical sync + vertical back porch + vertical active width

6) Horizontal active width: 256 ≤ horizontal active width ≤ 2560 dots
   * With progressive signals

   256 ≤ horizontal active width ≤ 1920 dots
   * With interlace signals

7) Vertical active width: 128 ≤ vertical active width ≤ 1580 dots
   * With progressive signals

   128 ≤ vertical active width ≤ 1080 dots
   * With interlace signals

8) Horizontal blanking width: Horizontal sync + horizontal back porch ≥ 96 dots

9) Vertical blanking width: Vertical sync + vertical back porch ≥ 12 lines

10) Horizontal sync width: 16 dots ≤ horizontal sync

11) Vertical sync width: 1 line ≤ vertical sync

12) Horizontal backporch width: 0 dots ≤ horizontal back porch

13) Vertical backporch width: 0 lines ≤ vertical back porch

If any restrictions are specified for the input modules (IM series), they take precedence.

(2) Concerning the installation of the IM-588

The IM-588 cannot be used with the SC-2055. It can be used only with the SC-2055A.

(3) Concerning the output timing signal restriction values

Video timing signals which meet all the conditions 1) to 13) below can be output.

1) Pixel clock frequency: 10.0 MHz to 165.0 MHz

2) Horizontal frequency: 15 to 150 kHz

3) Vertical frequency: 24 to 150 kHz

4) Horizontal total width: 512 ≤ horizontal total width ≤ 4608 dots
   * Horizontal total width ≥ horizontal sync + horizontal back porch + horizontal active width

5) Vertical total width: 256 ≤ vertical total width ≤ 2560 dots
   * Vertical total width ≥ vertical sync + vertical back porch + vertical active width

6) Horizontal active width: 256 ≤ horizontal active width ≤ 2560 dots

7) Vertical active width: 128 ≤ vertical active width ≤ 1580 dots

8) Horizontal blanking width: Horizontal sync + horizontal back porch ≥ 96 dots

9) Vertical blanking width: Vertical sync + vertical back porch ≥ 12 lines

10) Horizontal sync width: 16 dots ≤ horizontal sync

11) Vertical sync width: 1 line ≤ vertical sync

12) Horizontal backporch width: 0 dots ≤ horizontal back porch

13) Vertical backporch width: 0 lines ≤ vertical back porch

NOTE **If any restrictions are specified for the output modules (OM series), they take precedence.**

(4) Concerning the installation of the OM-598

The OM-598 cannot be used with the SC-2055. It can be used only with the SC-2055A.

2.5 Selecting the output timing signals

The SC-2055 and SC-2055A come with slots for two output modules (OUT-1 and OUT-2) to enable the timing signals of the user's choice to be obtained from output modules OM-xxx which have been installed in the slots.

There are some prescribed procedures for ensuring the signals are output properly from output modules OM-xxx, and they are described here. For details on how to set the output timing data, refer to the operating instructions of the output modules concerned.

2.5.1 Outputting identical timing signals from 2 output systems (OUT-1 and OUT-2)

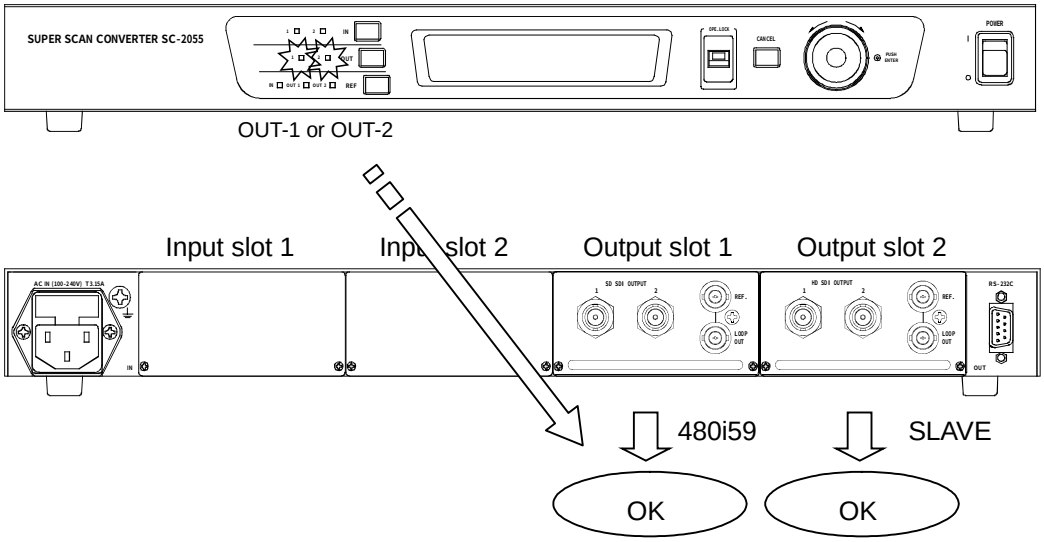
This section describes the method used to output identical timing signals from two output systems (OUT-1 and OUT-2).

Set the appropriate output timing signal for the slot in which the output module OM-xxx with the higher priority (*1) shown in the table below is installed. By setting the output timing signal from the slot in which the output module OM-xxx with the lower priority shown in the table below is installed as the "SLAVE," the identical timing signal set for the output module OM-xxx with the higher priority can be output (*2).

Refer to the operating instructions of the output modules concerned.

*1: If this cannot be satisfied, it may not be possible for the specifications of output module OM-xxx to be satisfied

*2: The signals must be within the specifications of output module OM-xxx.



Sequence of priority for output modules OM-xxx

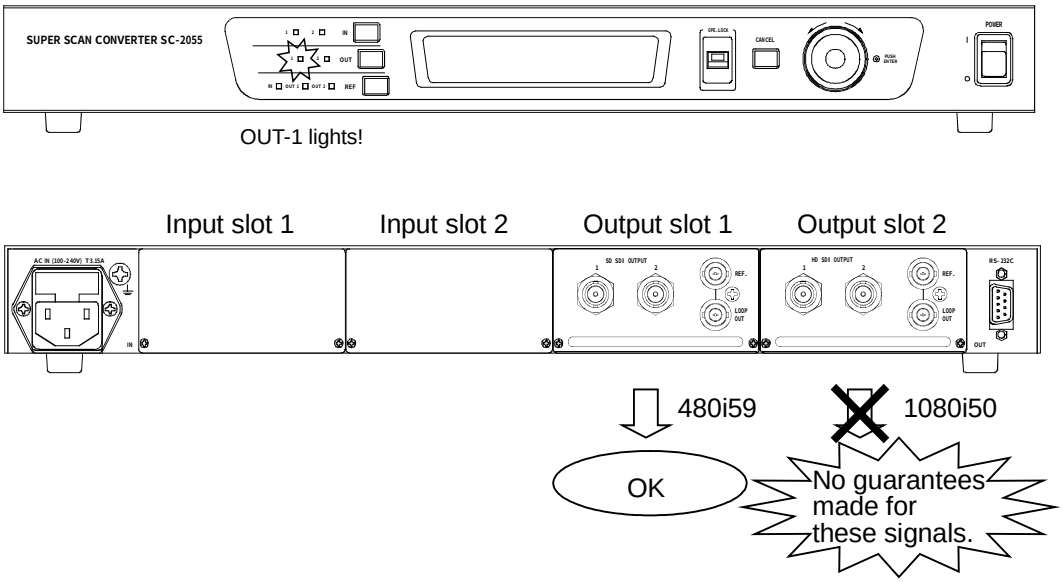
Product model	Priority level	Remarks
OM-594/OM-595/ OM-598	1	Serial digital output (SDI)
OM-596	2	Serial digital output (DVI)
OM-593	3	PC analog output

2.5.2 Outputting the timing signals of the user's choice from 2 output systems (OUT-1 and OUT-2)

This section describes the method used to output the timing signals of the user's choice from two output systems (OUT-1 and OUT-2).

The appropriate output timing signals can be set for each the slots in which the output modules OM-xxx are installed. Furthermore, the output selector button (OUT-1/OUT-2) on the front panel of the SC-2055 or SC-2055A can be used to select the output module OM-xxx from which the signals are to be output. No guarantees are made for the signals output from the output module OM-xxx which is not selected.

Refer to the operating instructions of the output modules concerned.



3 PARTS AND THEIR FUNCTIONS

3.1 SC-2055/SC-2055A front panel view and parts

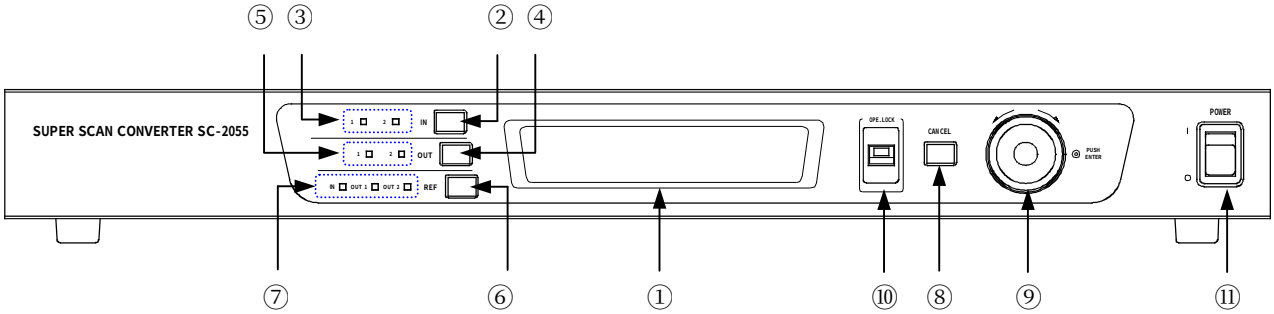


Fig. 3.1 SC-2055/SC-2055A front panel view

Table 3.1 Names of front panel parts

No.	Name of part		Description
①	Display		● During normal operation, the input timing data and output timing data appear here. => Refer to "What is shown on the display" in section 6.2. ● When OPE.LOCK is set to ON, the display is darkened.
②	Input selector button		This is used to select the input channel.
③	Input channel selection LEDs		The LED representing the input channel which has been selected lights.
		IN-1 LED	This lights when input channel 1 is selected.
		IN-2 LED	This lights when input channel 2 is selected.
④	Output selector button		This is used to select the output channel.
⑤	Output channel selection LEDs		The LED representing the output channel which has been selected lights.
		OUT-1 LED	This lights when output channel 1 is selected.
		OUT-2 LED	This lights when output channel 2 is selected.
⑥	REF selector button		This is used to select the reference channel.
⑦	REF channel selection LEDs		The LED representing the reference channels which has been selected lights. A lighted LED indicates lock enabled; a flashing LED indicates lock disabled. (*1)
		REF IN LED	This lights when the input channel has been selected as the reference channel.
		REF OUT-1 LED	This lights when output channel 1 has been selected as the reference channel.
		REF OUT-2 LED	This lights when output channel 2 has been selected as the reference channel.
⑧	CANCEL button		This is used to return from the menu hierarchy or cancel the changes made to settings.
⑨	Rotary encoder		This is used to change the menus and settings.
⑩	OPE. LOCK		This locks all the keys except the POWER switch. At the ON position, the key's LED lights.
⑪	POWER		This is the power switch. Wait at least 5 seconds after switching the power off before turning it back on and vice versa. (*2)

*1: Even if one of these LEDs is lighted, the locking function may not actually work.
*2: Do not turn off the power while data is being saved. Otherwise the initial values may be set instead of the saved values when the power is next turned on.

3.2 SC-2055/SC-2055A rear panel view and parts

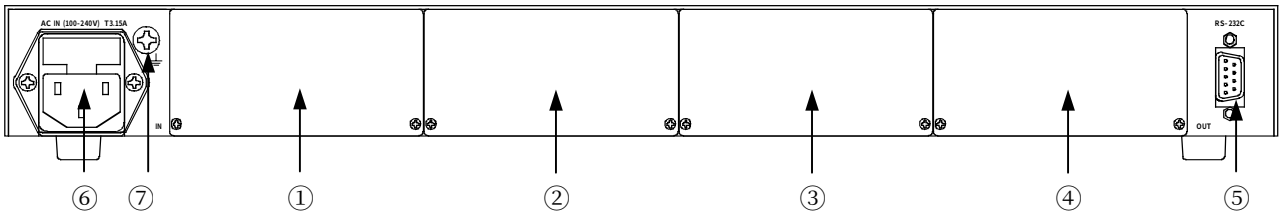


Fig. 3.2 SC-2055/SC-2055A rear panel view

Table 3.2 Names of rear panel parts

No.	Name of part	Description
①	Input slot 1	This is where the input modules are installed. ⇒ Refer to the separate "List of modules."
②	Input slot 2	
③	Output slot 1	This is where the output modules are installed. ⇒ Refer to the separate "List of modules."
④	Output slot 2	
⑤	RS-232C (RS-422) port	This is the port for serial control.
⑥	AC power socket	Connect the accessory power cord here.
⑦	FG	This is where the frame ground is connected.

* The slots where no modules are installed are fitted with blank panels.

4 INSTALLING THE MODULES

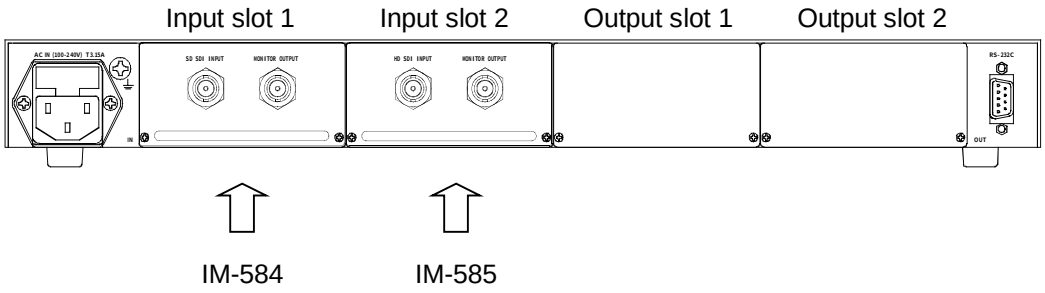
The SC-2055 and SC-2055A come equipped with slots for two input modules and two output modules, and modules suited to the intended application are installed in these slots. For the types of modules available, refer to the separate "List of modules."

To install a module, remove the blank panel covering the slot on the rear panel of the scan converter, and insert the module.

4.1 Installing the input modules

Install the input modules in the slots on the left side of the rear panel of the scan converter, as shown in the figure below.

Example



NOTE

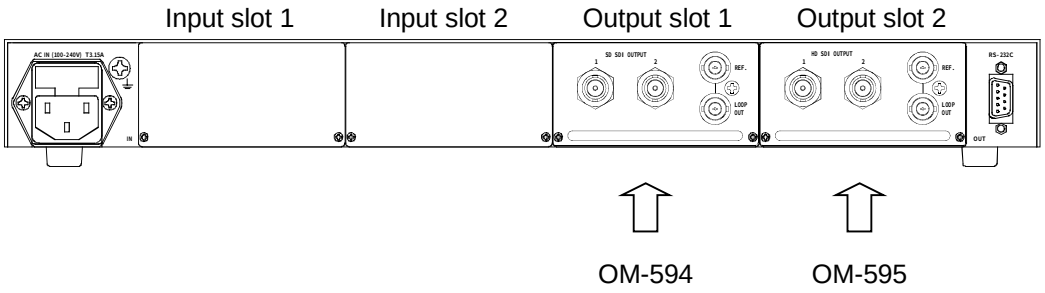
Bear in mind that when removing a module, its connector may come into contact with your hands.

Do not install an input module in an output slot or an output module in an input slot.

4.2 Installing the output modules

Install the output modules in the slots on the right side of the rear panel of the scan converter, as shown in the figure below.

Example



NOTE

Bear in mind that when removing a module, its connector may come into contact with your hands.

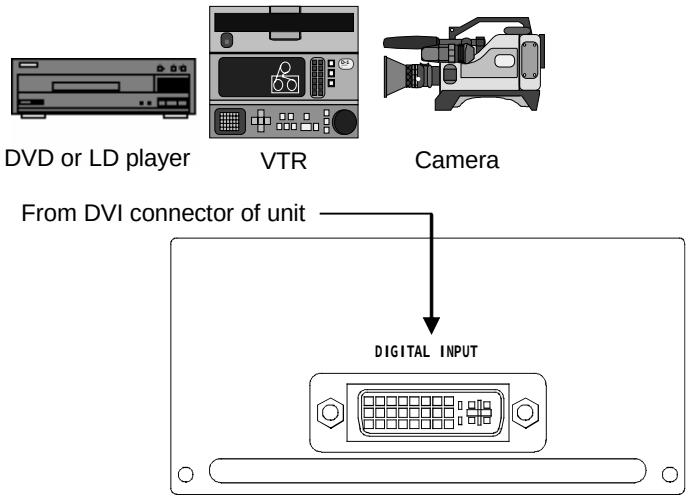
Do not install an input module in an output slot or an output module in an input slot.

5 CONCERNING THE CONNECTION PROCEDURES

5.1 Connecting the input signals

As shown in the figure below, connect the output signals of the VTR, DVD player or other unit to the INPUT connectors of the input modules.

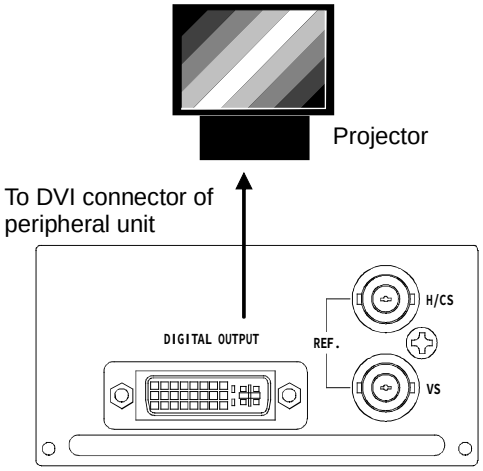
Example



5.2 Connecting the output signals

As shown in the figure below, connect the signals output from the OUTPUT connectors of the output modules to meet the input conditions of the peripheral units.

Example Projector



6 OPERATION

6.1 Operating procedures

(1) Selecting the input channels

Press the input selector button to select channel 1 or 2.

(2) Selecting the output channels

Press the output selector button to select channel 1 or 2.

⇒ Refer to "Selecting the output timing signals" in Section 2.5 on page 8.

(3) Input/output settings

Press the rotary encoder to display the menus, and proceed with the adjustments and settings.

⇒ Refer to "Menu configuration" in Section 7.1 on page 19.

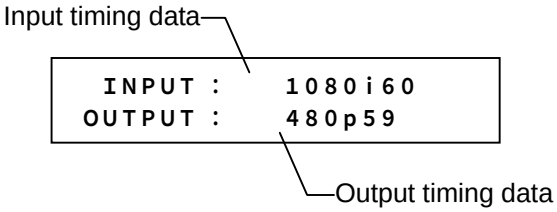
NOTE

The output for the channel which is not selected is not turned off. Bear in mind that if the timing signals of the selected channel can be output, they will be output, but if they cannot be output, they will not be output properly.

6.2 What is shown on the display

During normal operation, the setting statuses and other information appear on the front display of the super scan converter as shown below. (Default screen)

When the user ID display has been set, the characters of the user's choice which have been set are displayed.



INPUT	The current input timing data appears here.
OUTPUT	The current output timing data appears here.

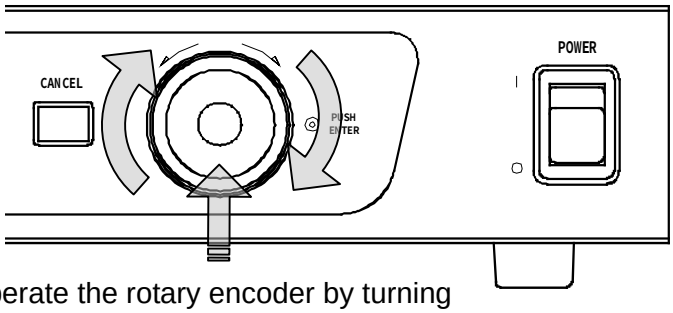
NOTE

If no keys have been operated for 3 minutes during the setting menu operations, the display automatically returns to the default screen.

SUPPLEMENTARY NOTE	**When the letters "SLAVE" for the output timing data are flashing, it means that the module for the output channel which is not selected (slave) cannot output the output timing data of the selected output channel (master).**

6.3 Setting menu operation methods

To make the adjustments and operate the setting menus, turn and push the rotary encoder. To cancel an operation, use the CANCEL button.



Operate the rotary encoder by turning and pushing it.

(1) Selecting the setting items

Turn the rotary encoder to select the setting item, and push it to enter the item.

(2) Selecting the setting

Turn the rotary encoder to select the setting.

(3) [ENTER] item on the menu displays

A selection or setting is entered by pushing the rotary encoder.

(4) [CANCEL] item on the menu displays

A selection or setting is canceled by pushing the CANCEL button.
The CANCEL button is also used to return to the original level in the menu hierarchy.

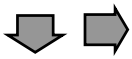
SUPPLEMENTARY NOTE	**By turning the rotary encoder, the menu items are selected and the setting parameters changed on the setting menus, and by pushing the rotary encoder, the items or settings are entered. The setting menu display is changed in real time. This enables the optimum settings to be selected while the output screen is monitored.**

7 ADJUSTMENTS AND SETTINGS

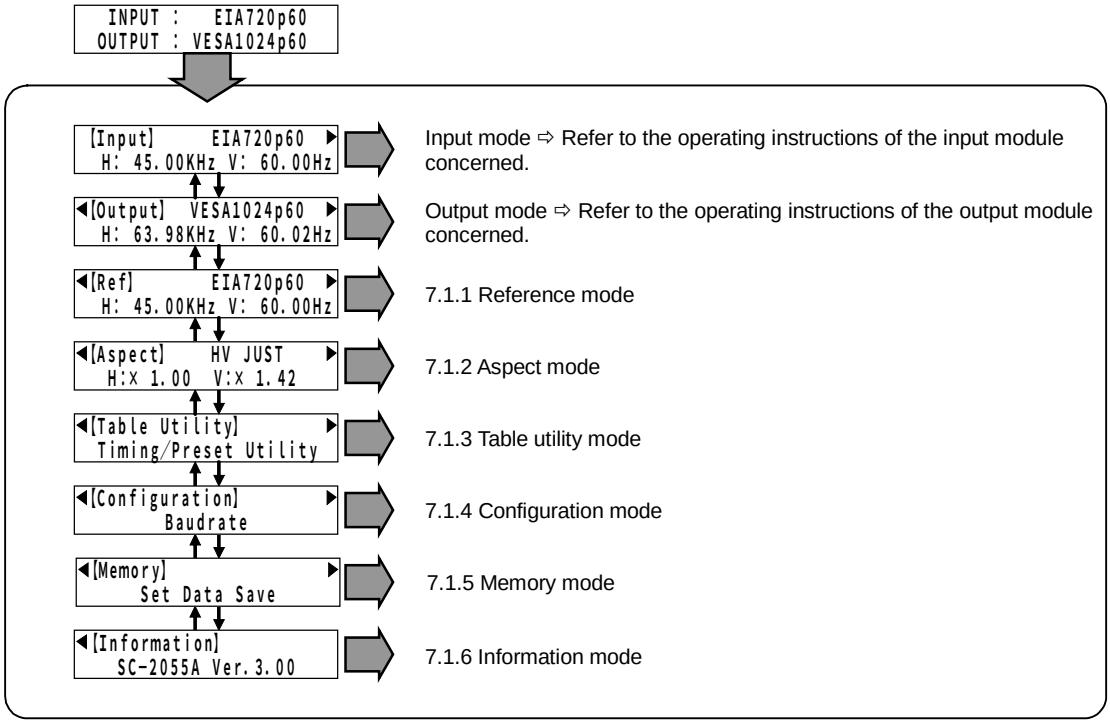
7.1 Menu configuration

The menu is displayed in the configuration shown below by pushing the rotary encoder from the default screen.

The symbols below signify the following.

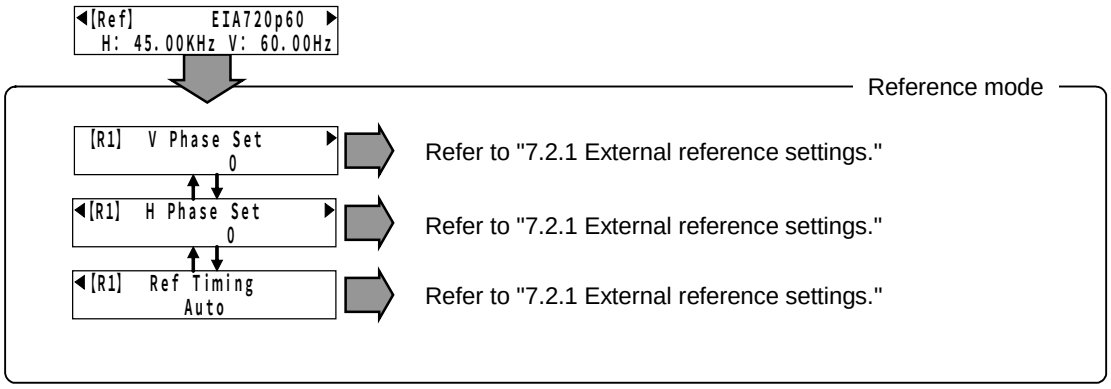
	Operations involving pushing the rotary encoder
	Operations involving turning the rotary encoder

Default screen



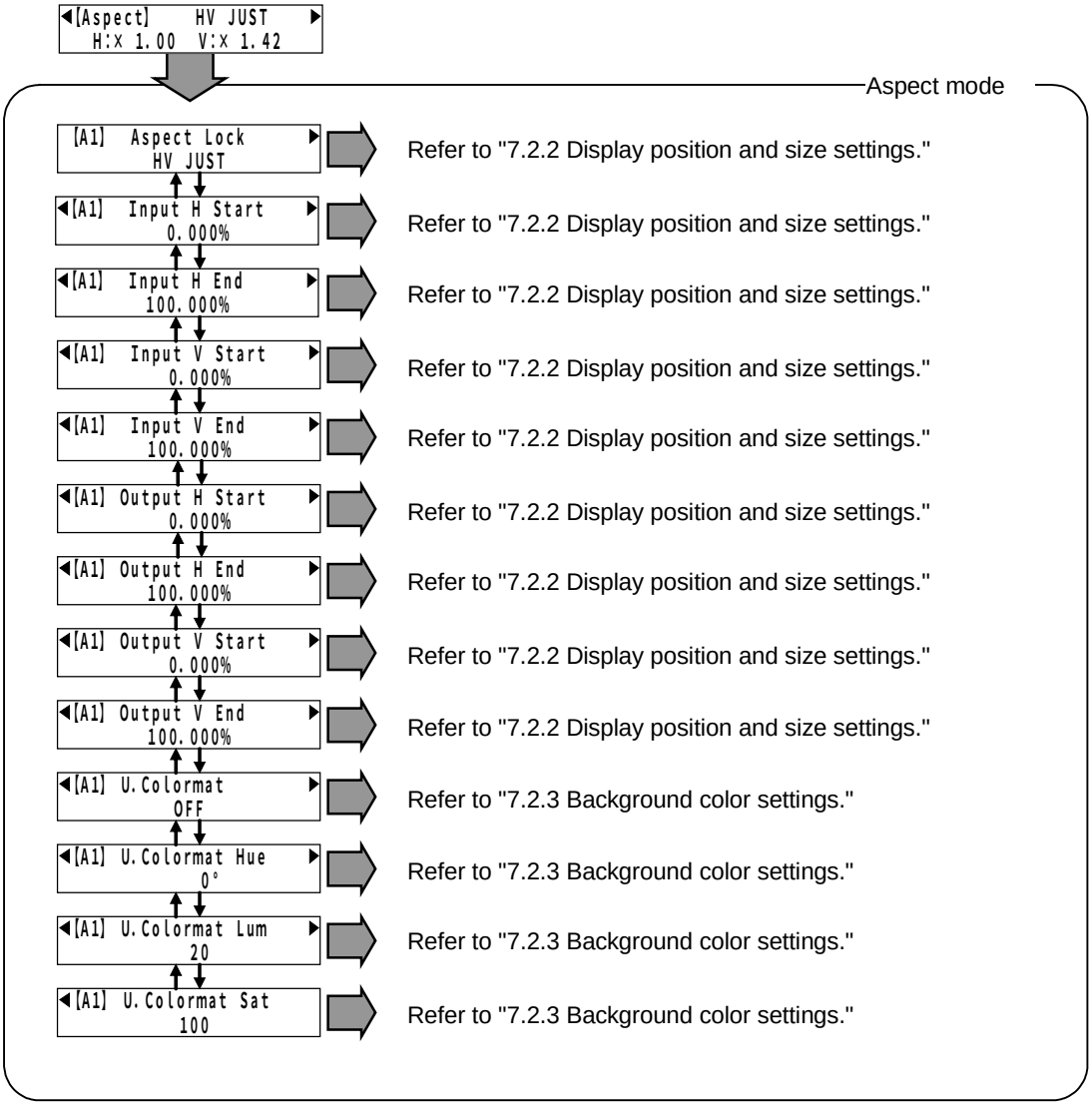
7.1.1 Reference mode

The timing data of the selected reference channel is displayed on the default screen of the reference mode.

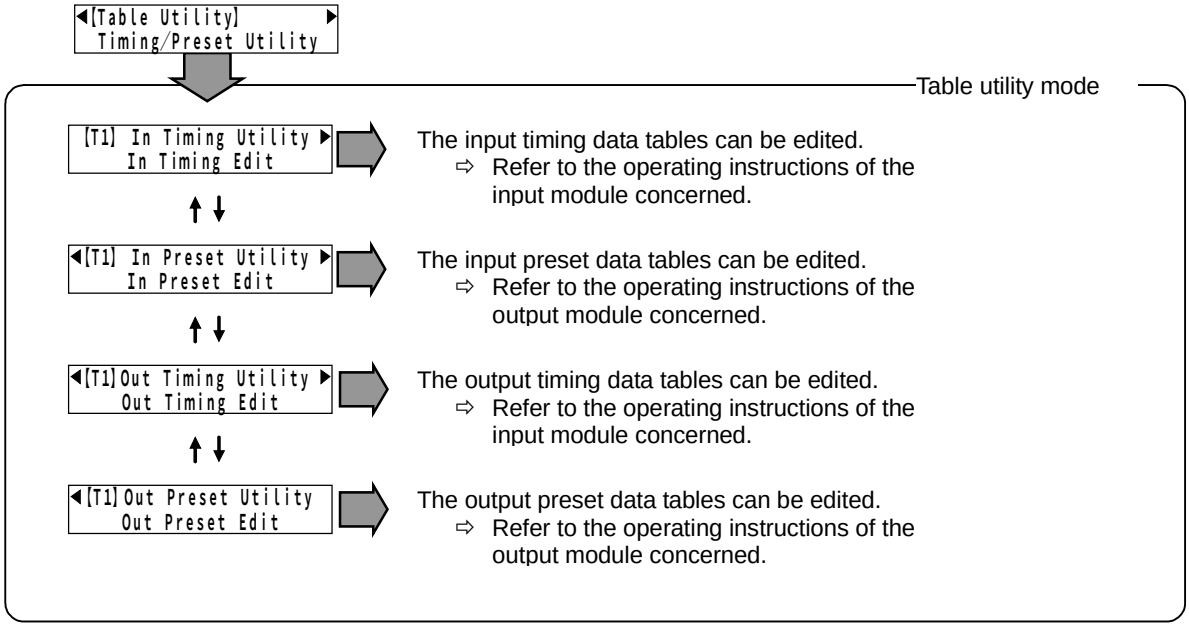


7.1.2 Aspect mode

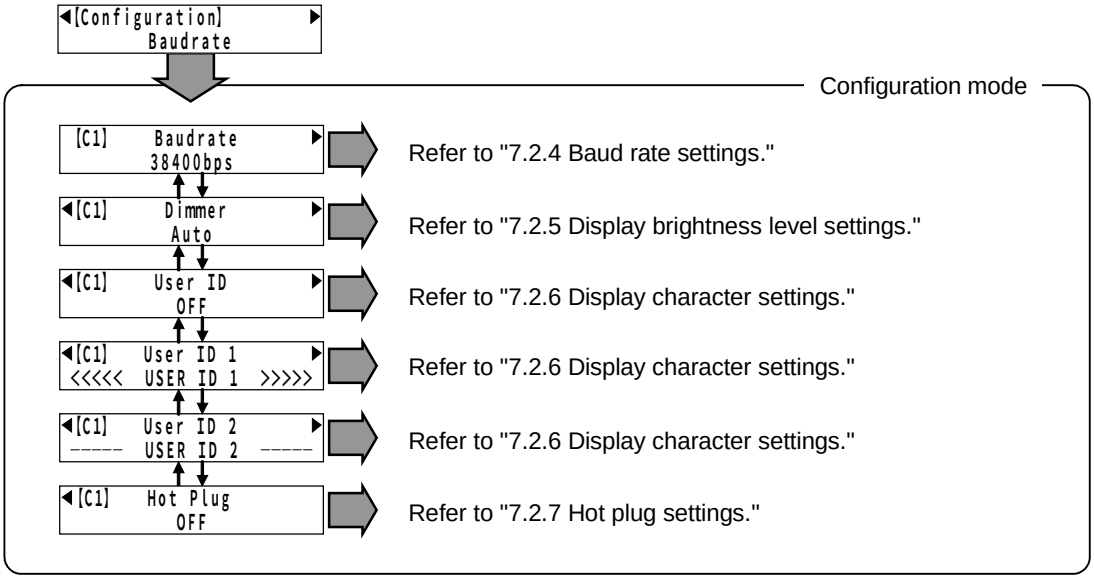
The settings selected by the aspect settings are displayed on the default screen of the aspect mode.



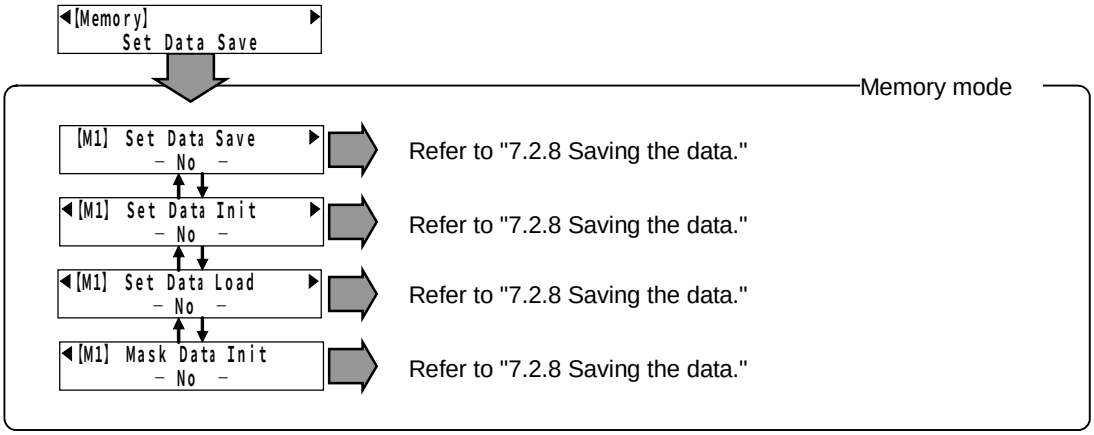
7.1.3 Table utility mode



7.1.4 Configuration mode

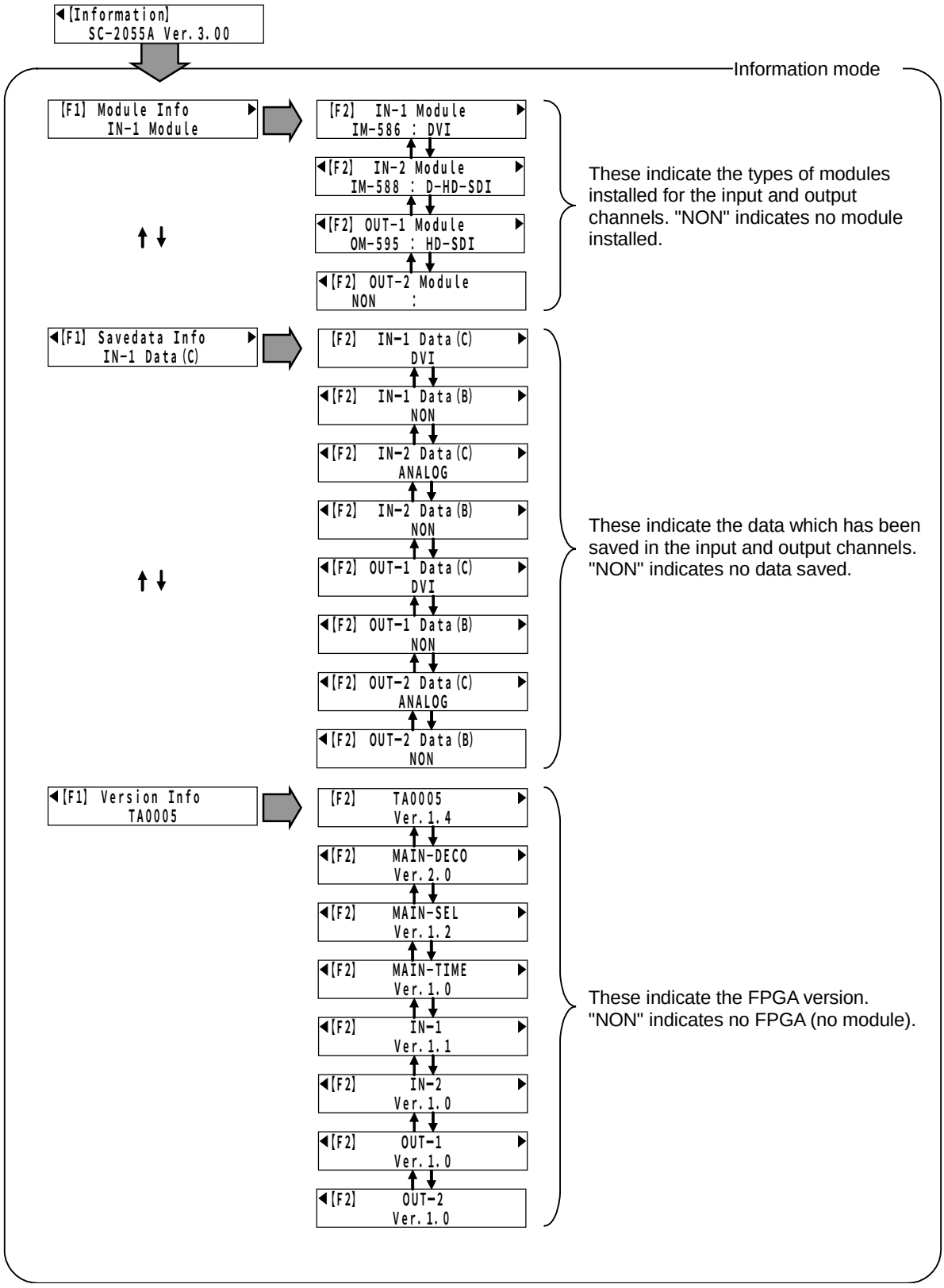


7.1.5 Memory mode



7.1.6 Information mode

The information for the product name and current version is displayed on the default screen of the information mode.



7.2 Setting items

7.2.1 External reference settings

Using the sync signals which are input to the external reference connector as a reference, the SC-2055 or SC-2055A makes it possible to obtain video output signals whose vertical frequency matches the frequency of the sync signals.

When REF OUT1 or REF OUT2 has been selected

Setting item	Description of setting	Setting value	Remarks
V Phase Set	External reference sync lock V phase setting	-2048 to +2048 lines (in 1-line increments)	Adjusts the phase in the vertical direction.
H Phase Set	External reference sync lock H phase setting	-999 to +999 dots (in 1-dot increments)	Adjusts the phase in the horizontal direction.
Ref Timing	External reference sync timing system setting	Auto/timing system name *1	Sets the automatic search mode for the external reference sync timing system. When BBS has been input has the external reference, set "480i59."

*1: The number of timing systems which can be selected differs according to the type of output module used.

When REF IN has been selected

Setting item	Description of setting	Setting value	Remarks
V Phase Set	External reference sync lock V phase setting	-2048 to +2048 lines (in 1-line increments)	Adjusts the phase in the vertical direction.
H Phase Set	External reference sync lock H phase setting	-999 to +999 dots (in 1-dot increments)	Adjusts the phase in the horizontal direction.
Ref Timing	External reference sync timing system setting	Cannot be selected. *1	Cannot be selected. ("----------" is displayed.)

*1: When REF IN has been selected, the input timing system serves as the external reference sync timing system so this setting is disabled.

When no selection has been made (light off)

Setting item	Description of setting	Setting value	Remarks
V Phase Set	External reference sync lock V phase setting	Cannot be selected.	Cannot be selected. ("----------" is displayed.)
H Phase Set	External reference sync lock H phase setting	Cannot be selected.	Cannot be selected. ("----------" is displayed.)
Ref Timing	External reference sync timing system setting	Cannot be selected.	Cannot be selected. ("----------" is displayed.)

SUPPLEMENTARY NOTE	**SUPPLEMENTARY NOTE** **When using external reference sync signals** **Input signals from a reference signal source or other such signals free from deterioration as the sync input signals. If no sync signals are input or if timing signals different from the settings are input, the images may be disrupted.**

	The vertical frequency of the output sync signals matches, but their vertical phase may not match.

7.2.2 Display position and size settings

These settings are for changing the image display size and setting the display position.

Setting item	Description of setting	Setting value	Remarks
Aspect Lock	Aspect ratio setting	HV JUST/V JUST/ ARIB 13:9/ARIB 14:9/ ARIB 15:9/H JUST	Sets the detail size.
Input H Start	Input H start position	0.000 to 99.999% (in 0.001% increments)	Sets the start position of the image display in the horizontal direction.
Input H End	Input H end position	0.001 to 100.00% (in 0.001% increments)	Sets the end position of the image display in the horizontal direction.
Input V Start	Input V start position	0.000 to 99.999% (in 0.001% increments)	Sets the start position of the image display in the vertical direction.
Input V End	Input V end position	0.001 to 100.00% (in 0.001% increments)	Sets the end position of the image display in the vertical direction.
Output H Start	Output H start position	0.000 to 99.999% (in 0.001% increments)	Sets the start position of the image display in the horizontal direction.
Output H End	Output H end position	0.001 to 100.00% (in 0.001% increments)	Sets the end position of the image display in the horizontal direction.
Output V Start	Output V start position	0.000 to 99.999% (in 0.001% increments)	Sets the start position of the image display in the vertical direction.
Output V End	Output V end position	0.001 to 100.00% (in 0.001% increments)	Sets the end position of the image display in the vertical direction.

7.2.3 Background color settings

These settings are for selecting the background color.

Setting item	Description of setting	Setting value	Remarks
U.Colormat	Color mat setting	OFF/USER	Used to switch between display and non-display.
U.Colormat Hue	Color mat USER setting	-180 to +180 deg. (in 1-degree increments)	Used to set the background color. The settings of these items are valid only when USER has been selected as the U.Colormat setting.
U.Colormat Lum	Color mat USER setting	0 to 100% (in 1% increments)	
U.Colormat Sat	Color mat USER setting	0 to 100% (in 1% increments)	

7.2.4 Baud rate setting

This setting is for the baud rate.

Setting item	Description of setting	Setting value	Remarks
Baudrate	Baud rate setting	9600/19200/38400bps	Used to set the transmission speed.

7.2.5 Display brightness level setting

This setting is for the display (fluorescent display tube) brightness level.

Setting item	Description of setting	Setting value	Remarks
Dimmer	Fluorescent display tube brightness setting	Auto/100%/ 75%/50%/25%	Used to set the brightness of the display.

SUPPLEMENTARY NOTE	**When Auto is set, the brightness level of the display when no keys have been operated for 3 minutes is set to 25%. When any of the front panel keys are operated, the brightness level is set to 100%.**

7.2.6 Display character settings

These settings enable the characters of the user's choice to be displayed. This makes it easy to identify the scan converter after it has been installed.

Setting item	Description of setting	Setting value	Remarks
User ID	Display of characters of user's choice	ON/OFF	Used when showing the characters of the user's choice on the display.
User ID 1	Display of characters of user's choice	24 characters	Display of characters of user's choice
User ID 2	Display of characters of user's choice	24 characters	Display of characters of user's choice

SUPPLEMENTARY NOTE	**The characters are input in sequence starting from the character string on the left of the display. When the characters are selected by turning the rotary encoder and entered by pushing the rotary encoder, the cursor moves to the next string. Keep repeating the same operations for each character in turn.**

7.2.7 Hot plug setting

This setting is for the hot plug.

Setting item	Description of setting	Setting value	Remarks
Hot Plug	Hot plug setting	ON/OFF	Sets the hot plug.

SUPPLEMENTARY NOTE	**The hot plug can be set to ON or OFF only when the DVI output module (OM-596) has been installed as the output module.**

SUPPLEMENTARY NOTE	**The hot plug "ON" setting is the mode in which the SC-2055 or SC-2055A signals monitors the connections with the monitor and outputs signals only when it is connected. The hot plug "OFF" setting is the mode in which signals are output all the time regardless of whether the monitor is connected.** **OFF is the SC-2055 or SC-2055A's factory setting for the hot plug. However, it is recommended that the ON setting be used when using a TMDS monitor supporting hot plug detection. Whether the TMDS monitor being used supports hot plug**

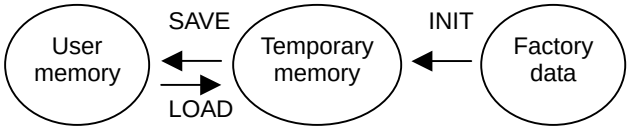
	detection can be verified by observing whether the images are displayed properly when used at the hot plug ON setting. If the images are displayed properly, it means that the monitor supports hot plug detection. **Bear in mind that the device may break down since signals are output all the time when used at the hot plug OFF setting.**

7.2.8 Saving the data

Since the data obtained by carrying out adjustments for the SC-2055 or SC-2055A will be lost if the scan converter's power is turned off, save it before turning off the power.

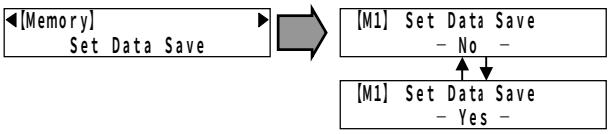
In the configuration mode, all the data can be saved in the user memory or saved data can be loaded or initialized to the factory data.

SC-2055/SC-2055A memory configuration



Setting item	Description of setting	Remarks
Set Data Save	Registration of all RAM data	All the temporary data overwrites the data in the user memory and is saved.
Set Data Init	Initialization of RAM data	The temporary data is overwritten by the factory data.
Set Data Load	Reading of flash memory data	The temporary data is overwritten by the user data which has been saved.
Mask Data Init	Initialization of master data	The master data is initialized to the factory data.

Example: Saving the adjustment data



When Yes is selected, the data is saved as soon as the rotary encoder is pressed.

⇨ Refer to "7.1.5 Memory mode" on page 22.

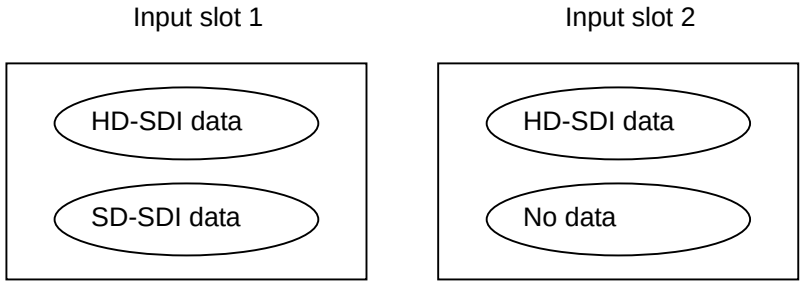
8 CONCERNING THE SAVED DATA

The data on up to two different types of modules can be saved at each slot.

⇨ For details on how to save the data, refer to "7.2.8 Saving the data" on page 27.

⇨ For checking the saved data information, refer to "7.1.6 Information mode" on page 23.

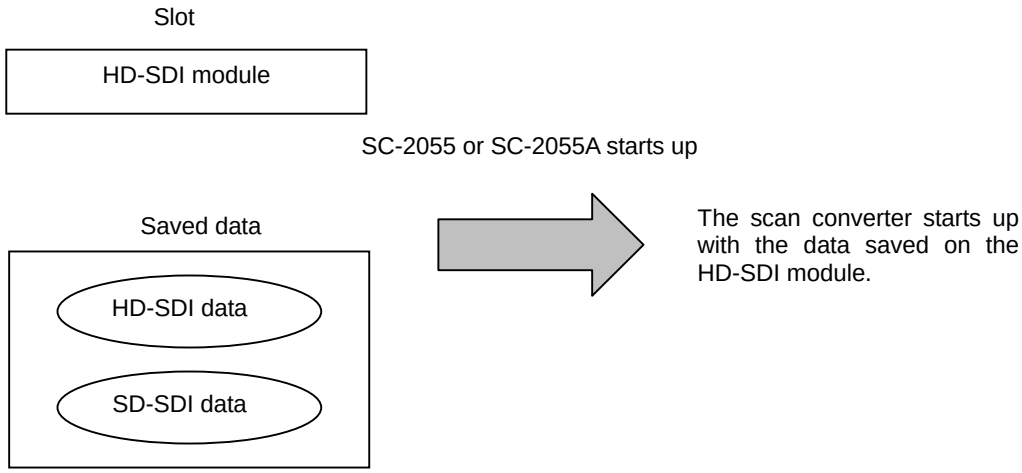
Example: Saving data



If saved data of the same type as the module type installed in the slot is present when the SC-2055 or SC-2055A starts up, the scan converter will start up with that data; if no such data is present, it will start up with the initial value data.

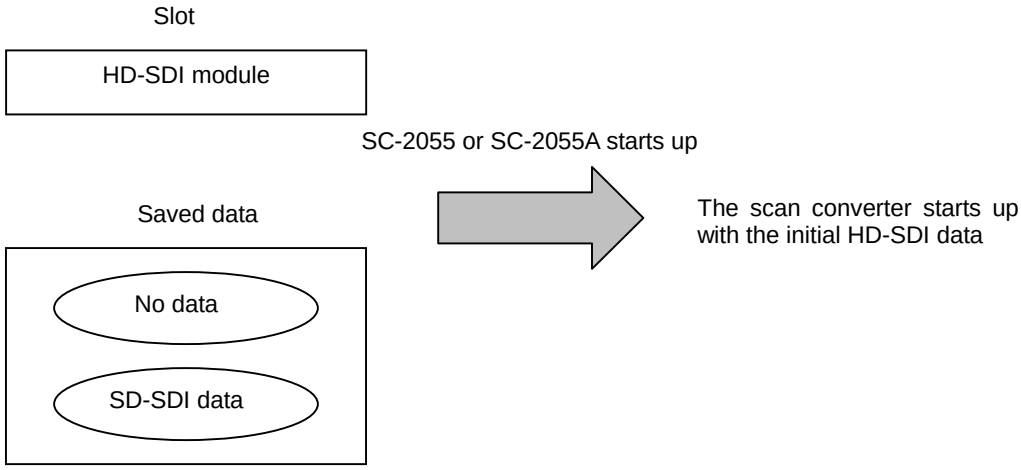
Example 1

If saved data of the same type as the module type installed in the slot is present when the SC-2055 or SC-2055A starts up



Example 2

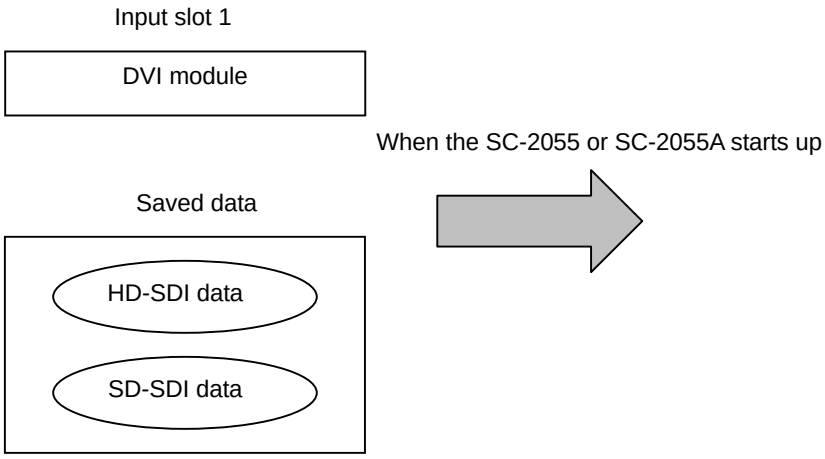
If saved data of the same type as the module type installed in the slot is not present when the SC-2055 or SC-2055A starts up

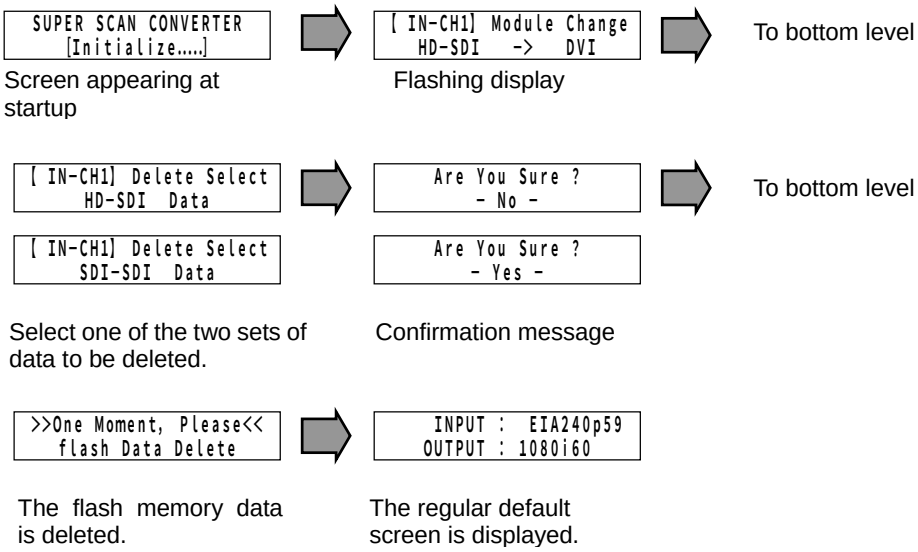


When the scan converter starts up with a module of a different type from the modules for which two sets of saved data are present at one of the slots, a menu for deleting one of the sets of saved data will appear. Follow the menu instructions, and delete one of the sets of saved data.

Example

When the scan converter is started up with saved HD-SDI data and saved SD-SDI data present at input slot 1 and with the DVI input module installed in input slot 1




SUPER SCAN CONVERTER
[Initialize.....]
[IN-CH1] Module Change
HD-SDI -> DVI
To bottom level
Screen appearing at startup
Flashing display
[IN-CH1] Delete Select
HD-SDI Data
[IN-CH1] Delete Select
SDI-SDI Data
Are You Sure ?
- No -
Are You Sure ?
- Yes -
To bottom level
Select one of the two sets of data to be deleted.
Confirmation message
>>One Moment, Please<<
flash Data Delete
INPUT : EIA240p59
OUTPUT : 1080i60
The flash memory data is deleted.
The regular default screen is displayed.

9 MAIN SPECIFICATIONS

9.1 General specifications

Table 9.1 SC-2055/SC-2055A operating environment and ratings

Item	Specification
Power consumption	SC-2055 ：70W MAX SC-2055A：76W MAX
Power requirements	AC100-120, 200-240V (50/60Hz)
Operating temperature	5 to 40 C (no condensation)
Operating humidity	30 to 80% RH (no condensation)
Dimensions	430(W) x 44(H) x 430(D) mm (excluding protrusions)
Weight	Approx. 6.5 kg

9.2 Accessories

AC cable	1 pc
EIA rack-mounting brackets	1 set
Operating instructions (main unit, commands)	1 copy
List of modules	1 copy

9.3 RS-232C port

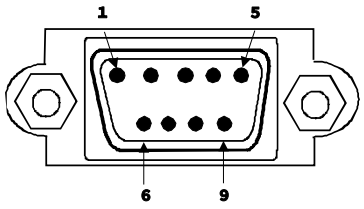
The scan converter comes with an RS-232C port on its rear panel as the control interface with a PC.

[RS-232C specifications]

Transfer rate	9600, 19200 or 38400 bps
Communication system	Full duplex
Start bit	1 bit
Data length	8 bits
Stop bit	1 bit

[RS-232C connector specifications]

Model: D-Sub 9-pin (male)



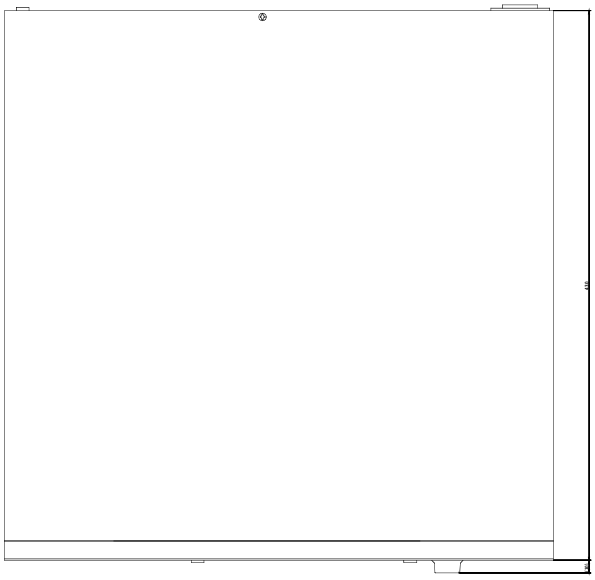
SC-2055 pin layout

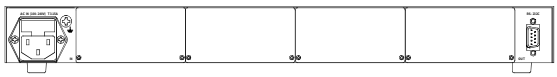
Pin	SC-2055/SC-2055A signal		Computer signal	Pin
2	SD	→	RD	2
3	RD	←	SD	3
5	FG	-	FG	5
8	RS (note)	→	CS	8

* All pins whose numbers are not shown in the figure are not connected; pins 4 and 6 are shorted internally.
(Note) Always marked

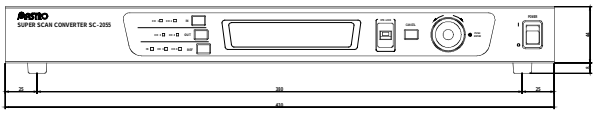
* For details on the communication protocol, refer to the Command Manual.

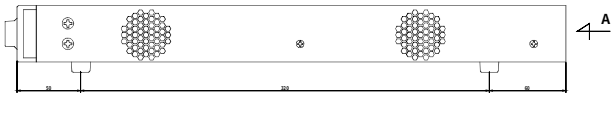
9.4 Outline drawings





A





10 TROUBLESHOOTING

If trouble is suspected, check out the following points.

Symptom	Check and remedial action
The images are disrupted.	• The images may not be displayed properly depending on the quality of the input signals.
The images appear double.	Image may appear double when the interlace system is used for both the input and output timing signals. Try the following. • Set frame lock for the input and output timing signals. • Set the input preset "Pulldown" to "Video."
Adjustments are made but not reflected on the display.	• Check whether the number of the table with the adjustments matches the number of the table used for the display. • The adjustment data will be lost if the power is turned off without first saving the data. After performing the adjustments, save the data.
Communication by commands is not possible.	• Check whether the baud rate setting is correct.
The front panel keys do not work.	• Check whether the OPE.LOCK key is at the ON setting.
"Board Error!!" appears on the display. Board Error !! Plaese Check Board	• Check whether the input and output modules have been installed in the correct slot positions.
"Please UpDate Program" appears on the display. Please UpDate Program	• An unsupported module has been installed. Update the program version.

SC-2055/SC-2055A Instruction Manual

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